

**REMARKS/ARGUMENTS****Introductory Remarks**

Claims 1, 19–41, and 43–46 are pending in the application. Claims 1, 22–23, 27–31, 39, 41, 43, and 46 are amended. Support may be found in the specification and claims as originally filed. Claims 18 and 42 are canceled. Claims 2–17 previously were canceled. No new matter has been added.

**Objections to the Specification**

The Examiner has objected to disclosure in the specification, specifically at paragraphs [0051] – [0052], wherein  $R^2$ , but not  $R^1$ , is disclosed to permissibly contain a hydroxyl group or is functionalized with an ether group. The Examiner alleges that this disclosure is inconsistent with claim 27, wherein  $R^1$  is permitted to contain a hydroxyl group, and claim 28, wherein  $R^1$  is permitted to be functionalized with an ether group. Applicants have amended claims 27 and 28 such that  $R^2$  and not  $R^1$  may contain a hydroxyl group or is functionalized with an ether group.

Applicants believe these amendments overcome the Examiner's objections and respectfully request withdrawal of the objections.

**Claim Objections**

The Examiner has objected to claims 28 and 30–31 for containing informalities. Applicants have amended each of claims 28 and 30–31 to correct the respective informalities. Specifically, the comma ending claim 28 has been replaced by a period, the placement of the  $R^3$  variable in the general formula of claim 30 has been moved from near the  $R^2$  group to the second carbon of the “y” subscripted group, and the repeated phrase “wherein the” has been deleted.

The Examiner also has objected to claim 42 under 37 CFR 1.75(c) for allegedly failing to further limit the claim from which it depends. Claim 42 has been canceled; the Examiner's objection is now believed to be moot.

Applicants believe the amendments to claim 28 and 30–31 and the cancellation of claim 42 overcome all of the Examiner's claim objections and respectfully request that these objections be withdrawn.

**Rejections under 35 U.S.C. § 112, second paragraph**

The Examiner has rejected claims 1 and 29 as indefinite under 35 U.S.C. § 112, second paragraph, for failing to particularly point out and distinctly claim the subject matter Applicants regard as the invention.

Claim 1 is rejected because the weight ratio of component b) to component c) is not met throughout the weight percentage ranges of components b) and c). Applicants have amended claim 1 to recite, in relevant part, a percentage weight range of 0.01 to about 0.6 wt. % of component c) and a weight ratio of component b) to component c) of between 35:1 and 75:1.

Claim 29 is rejected because the monohydroxylated intermediate group does not correspond to the non-ionic surfactant general formula in the claim. Applicants have amended claim 29 to change this correspondence and to correspond the claim with the specification as discussed on page 16 of the as-filed English translation of the specification.

Applicants believe the amendments to claims 1 and 29 overcome the Examiner's rejection of these claims as indefinite under 35 U.S.C. § 112, second paragraph, and respectfully request that these objections be withdrawn.

**Rejections under 35 U.S.C. § 103**

The Examiner has rejected claims 1, 18–24, 32–34, and 38–46 as unpatentable under 35 U.S.C. § 103 over Tartakovsky et al. (WO 99/05248; “Tartakovsky”).

With respect to claims 1, 18–23, 38–39, and 43 (Applicants have canceled claim 42), as the Examiner alleges, Tartakovsky does not teach a weight ratio of non-ionic surfactant to cationic polymer of 25:1 to 100:1 or, as Applicants have amended claim 1 herein, 35:1 to 75:1. In fact, Tartakovsky does not teach any weight ratio of these two components. Instead, Tartakovsky teaches a composition of a cationic or amphoteric polymer at a level of 0.1% to 20% by weight of the total detergent formulation (page 15, line 34 to page 16, line 2), with only the option of including a surfactant, whether anionic, nonionic, cationic, amphoteric, or zwitterionic, either individually or in combination (page 23, lines 14–17). Applicants’ invention is clearly distinct from Tartakovsky’s since Applicants’ invention is the discovery of a prescribed narrow ratio range of a cationic polymer and an anionic surfactant, as opposed to the broad, non-specific range of classes of polymers and multiple, optional classes of surfactants disclosed by Tartakovsky.

Moreover, the contrast between the formulations of Tartakovsky and Applicants is clear. Tartakovsky exemplifies only the use of high levels (5.0 wt.%) of cationic or amphoteric polymer (page 38, line 4 to page 39, line 2, Examples 1 and 2), which is substantially greater than the amount of nonionic surfactant (2.0 wt.% maximum) in the formulations. In contrast, Applicants’ discovery of the previously unrecognized surfactant/polymer ratio variable revealed that improved dishwashing detergent performance was effected by the opposite surfactant/polymer weight-percentage relationship that can be gleaned from the formulations in

Tartakovsky. Applicants discovered that the weight-percentage of cationic polymer in the formulation must be much less than the weight-percentage of nonionic surfactant—for example, in the range of 35:1 to 75:1—such that a formulation comprising the 2.0 wt.% nonionic surfactant of Tartakovsky would contain a maximum of only about 0.06 wt.% cationic polymer, rather than the 5.0 wt.% exemplified in Tartakovsky. In view of this dramatic and fundamental difference, Applicants believe Tartakovsky not only does not render Applicants' invention obvious, but, indeed, teaches away from Applicants' invention.

To support her argument, the Examiner relies on MPEP §2144.05, which states, in essence, that optimization of result-effective variables is routine experimentation. While Applicants agree with the Examiner's summary of the law, the Examiner's characterization of the weight ratio of nonionic surfactant to cationic polymer as a result-effective variable, respectfully, is incorrect. The person of ordinary skill in the art at the time the invention was made had no knowledge or recognition that optimizing the ratio of cationic or anionic polymer and nonionic surfactant affects performance of dishwashing detergents. The prior art, including Tartakovsky, Holderbaum *et al.* (US 2003/0166493; "Holderbaum"), and Kischkel *et al.* (US 2003/0114348; "Kischkel"), provides no indication that this ratio would be important to improving the effectiveness of automatic dishwashing detergents, particularly with respect to the cleansing and rinsing properties of such detergents. Indeed, Tartakovsky could not have recognized this critical property as evidenced by the fact that nonionic surfactants are optional ingredients in the dishwashing detergent formulations therein described, notwithstanding disclosure of inverse ratios. Tartakovsky, page 23, lines 14–17.

Even the Federal Circuit in a recent pro-obvious-to-try decision, which is the test considered and distinguished in its predecessor court's decision in *In re Antonie*, 559 F.2d 618 (CCPA 1977), and in the result-effective variable discussion of MPEP § 2144.05, noted with approval, "To be sure, 'to have a reasonable expectation of success, one must be motivated to do more than merely to vary all parameters or try each of numerous possible choices until one possibly arrived at a successful result, where the prior art gave either no indication of which parameters were critical or no direction as to which of many possible choices is likely to be successful.'" *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1365 (Fed. Cir. 2007), *quoting*, *Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1165 (Fed.Cir.2006) (internal quotations omitted).

In *Antonie*, the Court of Customs and Patent Appeals specifically distinguished the rule of optimizing a variable in a known process as normally obvious when it decided that the ratio of two parameters was not obvious because optimizing that ratio was not recognized in the art as a result-effective variable. *Antonie*, 559 F.2d at 620. Precisely as in *Antonie*, the Examiner's allegation of establishing *prima facie* obviousness, respectfully, is based upon the incorrect assumption that the ratio of two variables, in this case the ratio of nonionic surfactant to cationic polymer, is a result-effective variable, even though that parameter was not recognized in the prior art.

Because the ratio of nonionic surfactant to cationic polymer is not a result-effective variable and Tartakovsky's disclosure indicates that they did not know that this ratio improves the performance of a dishwasher detergent formulation, optimizing the amounts of Tartakovsky's components would not have been routine experimentation and, therefore, would not have been

obvious. *See* MPEP § 2144.05 (II)(B). Applicants respectfully request that the Examiner withdraw her rejection of claims 1, 18–23, 38–39, and 43 as obvious under 35 U.S.C. § 103.

With respect to claim 24, even though Tartakovsky teaches a similar compound, because claim 24 depends from claim 1 and, for the reasons claim 1 is not rendered obvious, as discussed above, claim 24 is not obvious over Tartakovsky. Applicants respectfully request the Examiner's withdrawal of its rejection.

The Examiner has rejected claims 32–34, but points out that Tartakovsky does not teach the unit dose ranges in grams of surfactant claimed by Applicants. Even if a tablet having the weight percentages disclosed by Tartakovsky were to fall within the unit dose range of Applicants' molded body, because claims 32–34 depend from claim 1, for the reasons discussed above, claims 32–34 is not rendered obvious by Tartakovsky. Applicants respectfully request that the Examiner withdraw her rejection.

Claim 40 is rejected as obvious over Tartakovsky because the Examiner alleges, as she explains in her rejection, that Tartakovsky discloses a generic cationic polymer comprising monomer units in which some species overlap the structure monomer unit disclosed in claim 40. Again, however, because claim 40 depends from claim 1, claim 40 is not obvious since Applicants' discovery that the ratio of cationic polymer to nonionic surfactant is not a result-effective variable and, therefore, is nonobvious. Applicants respectfully request that the Examiner withdraw her rejection of claim 40.

Claim 41 is rejected because the Examiner alleges that Tartakovsky teaches co-poly diallyldimethylammonium salt as a monomer unit. Tartakovsky does not teach acrylamidopropyltrimethylammonium salt as a monomer unit. As above, however, claim 41

should not be found obvious because it depends from claim 1. Claim 1 is not obvious for the reasons discussed above. Applicants respectfully request withdrawal of the rejection of claim 41.

Because claims 44–45 likewise depend from claim 1 and for the related reasons discussed above, the Examiner's rejection of claims 44–45 because Tartakovsky discloses a formulation that further comprises from 1% to 90% of a water-soluble phosphate builder does not render claims 44–45 obvious. Applicants respectfully request that the Examiner withdraw her rejection of claims 44–45.

The Examiner rejects claim 46 because she alleges that Tartakovsky teaches a machine dishwashing method for treating soiled glassware, even though Tartakovsky does not teach rinsing. More relevantly, however, Tartakovsky does not teach a machine dishwashing method with the dishwasher detergent of Applicants' claim 1, from which claim 46 depends. For the reasons discussed above, Applicants' claim 1 is not obvious. Because Tartakovsky does not teach the detergent of claim 1, Tartakovsky's teaching of a machine dishwashing method does not render claim 46 obvious. Applicants respectfully request that the Examiner withdraw her rejection of claim 46.

Claims 25–28 and 35–36 are rejected as unpatentable under 35 U.S.C. § 103 over Tartakovsky, as applied to claim 1, further in view of Holderbaum et al. (US 2003/0166493; "Holderbaum").

The Examiner alleges that while Tartakovsky does not teach the nonionic surfactant of claim 25, Holderbaum does disclose the surfactant. Respectfully, the Examiner is mistaken as to the disclosure of Holderbaum. The surfactant disclosed in paragraph [0143] of Holderbaum does not show  $R^3$  within the z-subscripted ethoxy group as required by Applicants' claim 25.

Accordingly, the surfactant disclosed by Holderbaum is a different surfactant than that of Applicants, such that the combination of Tartakovsky and Holderbaum cannot be seen to render claim 25 obvious. Moreover, as previously discussed, claim 25 depends from claim 1, which applicants have demonstrated is not obvious over Tartakovsky. Accordingly, Applicants respectfully request that the Examiner withdraw her rejection of claim 25.

The Examiner has rejected claims 26–28 as obvious over the teaching of Tartakovsky for the dishwasher detergent of claim 1, further in view of Holderbaum for teaching the nonionic surfactant of claim 26, as applicable also to claims 27–28. Although the Examiner has not directed Applicants to a particular paragraph in Holderbaum, Applicants assume, but do not admit, that the teaching in Holderbaum to which the Examiner refers is the formula disclosed in paragraphs [0164]–[0165].

Claims 26–28 depend from claim 1 as do all the previously discussed dependent claims and, by analogy to the previously discussed claims, Tartakovsky, even with the teaching of Holderbaum, does not render claims 26–28 obvious. Claim 1 is not obvious over Tartakovsky because Tartakovsky did not appreciate that the ratio of cationic polymer to nonionic surfactant is an important feature of Applicants' invention and, because this ratio is not in the prior art, the parameter is not a result-effective variable. Accordingly, optimization of Tartakovsky's formulation to arrive at Applicants' invention would not be routine experimentation. *See* MPEP § 2144.05 (II)(B). Applicants respectfully request that the Examiner withdraw her rejection of claims 26–28.

Claims 35–36 were rejected by the Examiner as obvious modifications of the detergent of Tartakovsky as applied to the multiphase molded body of Holderbaum. Applicants respectfully



disagree. Tartakovsky would have no reason to create, nor do they envision, a multiphase molded body since the detergent of Tartakovsky contains only one essential ingredient—a water soluble cationic or amphoteric polymer. *See* Tartakovsky, page 7, lines 10–12. Every other ingredient disclosed by Tartakovsky is optional, including that of a builder, which Tartakovsky ambiguously describes as optional within a sentence disclosing the essential components of the invention. Inherent in the concept of a multiphase molded detergent body is a perceived advantage of isolating one or more formulation components from other components of the formulation. *See, e.g.,* U.S. Ser. Nos. 09/446,434 and 09/446, 578. Since Tartakovsky’s formulation contains only one essential component, there is no other component with which, or from which, to isolate the sole essential component.

Notwithstanding Tartakovsky’s ability or motivation to create a multiphase tablet, given the multiphase molded body disclosure of Holderbaum, claims 35–36 depend from claim 34, which depends from claim 1. For the reasons extensively discussed throughout this response, Applicants’ detergent formulation is not rendered obvious by Tartakovsky’s formulation because Applicants’ discovery of the significance of the ratio of cationic polymer to nonionic surfactant was not in the prior art and was not recognized by Tartakovsky. For at least these reasons, Applicants respectfully request that the Examiner withdraw her rejection of claims 35–36.

The Examiner has rejected claims 29–31 under 35 U.S.C. § 103(a) as obvious over Tartakovsky, further in view Kischkel et al. (US 2003/0114348; “Kischkel”).

Specifically, claim 29 is rejected because Tartakovsky’s detergent of claim 1 does not teach the formula of claim 29, but the Examiner alleges that Kischkel does disclose this formula. Claim 29 depends from claim 1 and, by analogy to the previously discussed claims, Tartakovsky,

notwithstanding the teaching of Kischkel, does not render claim 29 obvious. Claim 1 is not obvious over Tartakovsky because Tartakovsky could not have recognized the ratio of cationic polymer to nonionic surfactant as an important parameter of Applicants' invention and, so, could not render claim 29 obvious. Applicants respectfully request withdrawal of the rejection of claim 29.

Claims 30–31 are rejected because Tartakovsky's detergent of claim 1 does not teach the formula of claim 30, and of claim 31 which depends therefrom, but the Examiner alleges that Kischkel does disclose this formula. Claims 30–31 depend from claim 1 and, as previously discussed, Tartakovsky, notwithstanding the teaching of Kischkel, does not render claim 30 obvious. Claim 1 is not obvious over Tartakovsky because Tartakovsky could not have recognized the ratio of cationic polymer to nonionic surfactant as an important parameter of Applicants' invention and, so, could not render claims 30–31 obvious. Applicants respectfully request withdrawal of the rejection of claims 30–31.

The Examiner has rejected claim 37 under 35 U.S.C. § 103(a) as obvious over Tartakovsky, further in view of Smith (US 2003/0224959). Smith allegedly teaches a unit dose form that requires that at least one of the preformed subunits be in liquid, paste, or gel form, which is packaged together with other subunits in a film wrap. Smith's focus on packaging a non-solid would not lead the person of ordinary skill in the art to package the solid polymer of Tartakovsky according to claim 37. Moreover, the nonobviousness of claim 37 centers not on unit dose packaging, but on the absence of recognition by Tartakovsky of the ratio of cationic polymer to nonionic surfactant in the dishwasher detergent formulation. As discussed above, precedential case law that is directly on-point requires that because Tartakovsky did not, indeed,

could not, recognize Applicants' claimed ratio, that ratio is not a result-effective variable. Accordingly, the skilled artisan cannot optimize the formulation of Tartakovsky to make Applicants' invention through routine experimentation. *See* MPEP § 2144.05 (II)(B). The discovery by Applicants of this ratio makes claim 1 and all claims that depend therefrom non-obvious. Again, Applicants respectfully request that the Examiner withdraw her rejection of claims 1, 19–41, and 43–46. Because claims 18 and 42 have been canceled, the Examiner's rejection of these claims is believed to be moot.

Applicants thank the Examiner for her thorough examination of this application. Applicants believe this application now is in condition for allowance and respectfully request prompt notification in this regard.

Because this Response is timely filed, no fee is believed due. However, if any fee should be due, the Director is hereby authorized to charge our Deposit Account No. 03-2775, under Order No. 13744-00016-US, from which the undersigned is authorized to draw.

Respectfully submitted,

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